IV. *A Botanical Sketch of the Genus Conchium. By James Edward Smith, M.D. F.R.S. P.L.S.*

Read March 4, 1806.

When the plants of New Holland were first examined, they presented, as I have had several occasions to remark, so much novelty and singularity to the systematic botanist, that the utmost caution was requisite in fixing their genera, and even, in some instances, their species. The proteus-like nature of the leaves of some kinds of *Mimosa*, *Metrosideros*, *Embothrium*, *Eriostemon* and others, might baffle the most acute observer, and elude the most able discriminator. I am obliged to Mr. Salisbury for first suggesting that my *Metrosideros lanceolata*, *linearis*, and *saligna*, *Trans. of Linn. Soc. v.* iii. 271, 272, are all varieties of one species, and that there are still more of the same in the gardens about London. I could scarcely have assented to this, had I not lately seen, in the greenhouse of my friend Mr. Cooper of Norwich, three plants raised from the seeds of one capsule of *Metrosideros*, of which any botanist in the world, not pre-informed, would make two, if not three, species. In such cases experience must be our only guide; and the most lofty science is often obliged to stoop, even on more important occasions, to the suggestions of this faithful nurse of truth.

In the generic arrangement of such novel productions the greatest botanists have been most sensible of the difficulty of their task, and have proceeded with proportionate caution.

Thus

Thus the many new kinds of *Proteaceæ*, though by the judgment of Sir Joseph Banks and Dr. Solander readily separated from *Protea* itself, were not rashly subdivided into too many genera, till time, and an opportunity of observing them in different states, should throw sufficient light upon the subject. Some of them indeed, constituting a clear and certain genus, were made known to the younger Linnæus by means of plates, and dried specimens, and named by him *Banksia*; but a number of doubtful species have remained unsettled under the temporary denomination of *false Banksiæ* in the collections of those who had opportunities of acquiring New Holland specimens.

When the very imperfect materials, from which the botanical part of Dr. White's Voyage to New South Wales was composed, were put into my hands, I had not sufficient information to separate these false *Banksiæ* from the true ones. I therefore followed Gærtner in keeping them together, avoiding a precise definition of the generic character till I had seen the flowers. Mr. Salisbury has done the same in the *Prodromus* of his garden, where is a more ample enumeration of species than had before appeared, but their characters are not so satisfactory as some of this writer's.

In Professor Willdenow's *Species Plantarum* eight species of *Banksiæ* are enumerated, which comprehend, besides the real *Banksiæ*, two other very distinct genera, *Xylomelum* and *Conchium*, whose characters are given in the 4th volume of the Linnean Society's Transactions, p. 214, 215, and of the latter of which I shall now offer a further illustration.

The name, derived from κόγχη, a bivalve shell, was given in allusion to the peculiar form of the fruit, to which it strikingly applies. I was not then aware that, a little before my paper was even read to the Society, this genus had been determined

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at Göttingen by my friend Dr. Schrader, and published under the name of *Hakea* in his *Sertum Hannoveranum*, *p.* 27. *t.* 17, a name which the late Professor Cavanilles, justly regarding the right of priority, has preferred to mine. I might accede to this decision, however sorry to part with an apt and characteristic name, were I certain that *Hakea* were liable to no botanical exception. I have not been able to consult Dr. Schrader, but the very last letter from my most candid and ever-lamented friend *Cavanilles* was decisively in favour of *Conchium*, which he said he should in future adopt*.

I shall now proceed to define 12 species of this genus from my own observation, referring to each the synonyms of preceding writers, so far as it is possible even to guess at them, and choosing the best names afforded by those writers for such species as are not altogether new. Of Mr. Donn's names I am certain, having communicated them to him myself. His very useful work deserves every assistance.

For the character of the genus *Conchium* I need only refer to our 4th volume above quoted.

The species may be divided into 2 sections, the 1st with cylindrical, the 2d with flat leaves; though even this striking difference is not absolutely without exception, as will appear from the description of my 7th species, *Conchium trifurcatum*.

* *Foliis teretibus.*

1. CONCHIUM *gibbosum*, foliis teretibus sub-pubescentibus fructu parùm longioribus, corollâ glabrâ, capsulis ovato-subrotundis gibbosis rugosis.

Conchium gibbosum. *Donn. Cant.* 21.

* M. Ventenat has also preferred this name for the genus before us, in his splendid *Jardin de la Malmaison*.

Banksia

Banksia gibbosa. *White. Voy.* 224. *t.* 22. *f.* 2. *Willden. Sp. Pl. v.* 1. 536.
B. pinifolia. *Salisb. Prod.* 51?
Hakca gibbosa. *Cavan. Ic. v.* 6. 24. *t.* 534.
H. pubescens. *Schrad. Sert.* 27?

Near Port Jackson, New South Wales. *Dr. White.*

The leaves of this species are from an inch and half to two inches long, as thick as a crow's quill, exactly cylindrical, bluntish, tipped with a sharp spine; when young they are clothed with short whitish hairs, which sometimes, but not always, fall off when the leaves are very old. Young branches hairy. Flowers axillary, two or three together, white, on simple very hairy stalks. Corolla quite smooth. Capsules solitary, the size of a moderate walnut, black and rugged, very protuberant at their under side; the valves extremely thick and woody, each tipped with a short sharp point; the cavity very small, eccentric and uneven. Seeds with black membranous wings, resembling gauze or crape.

2. CONCHIUM *sphæroideum*, foliis teretibus longitudine fructûs ramisque villosis, capsulis orbiculato-depressis læviusculis.

Near Port Jackson. *Dr. White.*

Leaves scarcely more than an inch long, very hairy. Branches clothed with dense woolly hairs. Capsules of a rusty brown, the size of the last, but much smoother, and of a different shape, being, when viewed vertically, almost orbicular, but depressed, their points scarcely projecting beyond the circumference. I have seen no flowers.

3. CONCHIUM

3. CONCHIUM *aciculare*, foliis teretibus glabris longitudine fructûs, corollâ glabrâ, capsulis ovato-subrotundis rugosis apice productis.

Conchium aciculare. *Donn. Cant.* 21.*
Banksia tenuifolia. *Salisb. Prod.* 51?
Hakea sericea. *Schrad. Sert.* 27?
Near Port Jackson. *Dr. White.*

This is in all its parts about half the size of *C. gibbosum*, and the leaves are at every period of their growth (as far as I have seen) quite smooth, though the flower-stalks and young branches are silky. The whole fruit is more oblong than in the two former, but its lateral protuberances are more globose.

4. CONCHIUM *longifolium*, foliis teretibus glabris fructu triplò longioribus, corollâ sericeo-villosâ.

Conchium longifolium. *Donn. Cant.* 21.
Banksia teretifolia. *Salisb. Prod.* 51.

Sent from Port Jackson. *Mr. Donn.*

The leaves are 3 inches long, or more, spinous, as in the three foregoing, apparently always smooth as well as the branches, but the corolla and flower-stalks are clothed with white silky close-pressed hairs, exactly as in *C. pugioniforme*.

5. CONCHIUM *compressum*, foliis teretibus glabris vix longitudine fructûs, capsulis ovatis compressis torulosis.

Near Port Jackson. *Dr. White.*

I have not seen the flowers of this species. The capsules are

* Conchium aciculare. *Ventenat Jard. de la Malmaison, t.* 111.

ovate, partaking but little of the globular protuberant form of those above described, and are not more than an inch long. The leaves are scarcely so much, and are fully as slender as those of *C. aciculare.*

6. CONCHIUM *pugioniforme*, foliis teretibus glabris, corollâ sericeo villosâ, capsulis lanceolatis mucronatis basin versùs muricatis.

Hakea pugioniformis. *Cavan. Ic. v.* 6. 24. *t.* 533.

H. glabra. *Schrad. Sert.* 27. *t.* 17.

Near Port Jackson. *Dr. White.*

Leaves an inch, or inch and half long, always smooth, as well as the branches. The capsules are very peculiar. The flowers and their stalks agree with those of *C. longifolium*, which may probably be a variety of the present species, but this can only be determined by comparing their ripe capsules, which I have never been able to do.

7. CONCHIUM *trifurcatum*, foliis teretibus trifidis: quandoque dilatatis simplicibus ellipticis planis, corollâ villosâ.

Gathered by Mr. Menzies at King George's Sound, on the west coast of New Holland, latitude 35.

This species is most remarkable for the variation in its leaves from a cylindrical to a broad flat figure, even on the same branch. In the same leaf indeed it sometimes happens that the lower half is flat, the upper cylindrical. The most general form of the leaves, however, is cylindrical, divided about half way down into three, nearly equal, spreading, spinous points. The flowers and flower-stalks are shaggy, with spreading hairs, not silky.

** *Foliis*

** *Foliis planis.*

8. CONCHIUM *dactyloides**, foliis obovato-oblongis mucronulatis triplinervibus venosis, capsulis ovatis acutis.

Conchium nervosum. *Donn. Cant.* 21.
Hakea dactyloides. *Cavan. Ic. v.* 6. 25. *t.* 535.
Banksia dactyloides. *Gærtn. v.* 1. 221. *t.* 47. *f.* 2.
B. oleæfolia. *Salisb. Prod.* 54.

Near Port Jackson. *Dr. White.*

The leaves are flat, thick and rigid, smooth, entire, obovate, but varying in breadth and length, tapering at the base, and tipped with a short obtuse spine. They are marked with three principal nerves united above the base, the spaces between which are occupied either by transverse interbranching veins, or by other parallel nerves. Flowers small, white, very numerous, from axillary buds, in dense hairy tufts. Corolla smooth. Capsule ovate, acute, rugged, scarcely gibbous.

I should still gladly have called this *C. nervosum*, did I not totally disapprove of changing names given by good authors, unless when positively false or bad. Gærtner having seen only the capsules, could scarcely have contrived a better name than he did, and Cavanilles has given it additional authority. I have ascertained Gærtner's original name from Sir Joseph Banks's herbarium since I suggested to Mr. Donn that of *nervosum*.

9. CONCHIUM *ellipticum*, foliis ellipticis retusis muticis quinquenervibus reticulato-venosis, capsulis ovatis obtusis.

Brought by Mr. Menzies from King George's Sound.

Leaves $2\frac{1}{2}$ inches long and 1 broad, exactly elliptical, obtuse,

* Conchium dactyloides. *Ventenat Jard. de la Malmaison, t.* 110.

without spines, entire, almost sessile, somewhat glaucous, marked with five nerves which all spring from the base, and the spaces between which are beautifully reticulated with very numerous veins. Young branches downy. Capsule much like the last, but more obtuse. The flowers I have not seen.

10. CONCHIUM *oleifolium*, foliis elliptico-lanceolatis mucronulatis uninervibus, capsulis ovatis gibbosis torulosis.

Near King George's Sound. *Mr. Menzies.*

Full-grown leaves scarcely an inch and half long, smooth and even, entire, obtuse, spinous, thick and rigid, with one nerve which throws off a few, scarcely perceptible, simple veins. When young, the leaves and branches are silky. Flowers smooth, in short axillary spikes, with a hairy common stalk, and smooth partial ones. Capsule ovate, gibbous on one side, and very rugged all over.

11. CONCHIUM *ceratophyllum*, foliis trilobis pinnatifidis, capsulis ovatis compressis.

Near King George's Sound. *Mr. Menzies.*

Very remarkable for its large branching divaricated leaves, from 2 to 4 inches long, hard and rigid, obscurely ribbed, with all their lobes and teeth spinous. When young they are silky, as well as the flowers and their stalks, with a rusty tinge. Capsule of a narrow ovate compressed form, its outer coat smooth, and, as far as can be judged from its present appearance, succulent.

12. CONCHIUM *salignum*, foliis lineari-lanceolatis acutis muticis uninervibus, capsulis ovatis gibbosis recurvis.

Conchium

Conchium salignum. *Donn. Cant.* 21.
Embothrium salignum. *Andr. Repos. t.* 215.

A native of the country near Port Jackson. It flowered at Messrs. Lee and Kennedy's in 1791, and in the conservatory of Thomas Johnes, Esq. at Hafod, in June 1798, from which last place I have received ripe capsules, serving to determine the genus.

The leaves are 5 or 6 inches long, smooth and pliable, of a narrow lanceolate form, entire, acute, but not spinous, furnished with one nerve, and a few lateral veins. Flowers small, white, smooth, in smooth axillary umbels. Capsule ovate, recurved, very gibbous, and somewhat rugged at each side, tapering at the base. Each of its valves is tipped with a lateral spine, as in several of the species that have cylindrical leaves.

J. E. SMITH.

Norwich, March 3, 1806.